

REMARKS

This Response, filed in reply to the Office Action dated May 26, 2006, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-6 are all the claims pending in the application.

I. Claim Rejections under 35 U.S.C. § 103

Claims 1 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki et al. (U.S. Patent No. 6,897,100) in view of Ikeda (U.S. Patent No. 5,183,547).

Claims 2-3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki et al. (U.S. Patent No. 6,897,100) in view of Chenevas-Paule et al. (U.S. Patent No. 4,529,617).

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki et al. and Ikeda as applied to claim 1 and 6 above and further in view of Zhang et al. (U.S. Patent No. 5,424,244).

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki et al., Ikeda et al. and Chenevas-Paule et al. as applied to claim 2 and 3 above and further in view of Zhang et al. (U.S. Patent No. 5,424,244).

The Examiner essentially maintains the same basis for rejection and offers a few points in rebuttal to previously submitted arguments. Applicant respectfully submits that the rejections remain improper for the reasons set forth below.

A feature of the invention as described by claim 1 include a vacuum chamber having planar dimensions of a chamber length and a chamber width wherein at least one of the width

and the length is less than a twice the respective length or width of the substrate. The Examiner continues to correctly concede that Yamazaki lacks this feature but cites Ikeda to make up for this deficiency. Applicant respectfully submits that the rejection is improper.

Referring to the teachings of Ikeda, the cited art has a particular transport configuration to implement its purported space-saving features. Referring to Fig. 2, a vacuum chamber 2 includes arms 9 and 10 which rotate about shafts 11, 12. The shafts are provided at equal distances from inlet/outlet 3 and a sputtering station 4. The arms must also be able to accommodate the size of the chip 13 in order to transport the same. In order to have sufficient clearance for the these rotating arm mechanisms, and displacement between processing areas (inlet 3, sputtering station 4), the dimensions of the chamber 2 clearly must exceed twice a dimension of the chip in all dimensions. In particular, if one of the chamber length or width were less than twice the respective substrate dimension, then the rotating arm would hit a chamber wall as the arm would be unable to subtend the necessary arc for the transport. Thus, Ikeda specifically teaches away from the dimensional requirements of independent claim 1.

The Examiner contends that it would be obvious to adjust the size in view of the size reduction feature of Ikeda. However, the Examiner does not adequately address the fact that the space saving feature of Ikeda has limits based on the clearance required by the rotating arms. If the vacuum chambers has dimensions as small as that claimed by Applicant, then the rotating arms of Ikeda would not have sufficient clearance to swing a chip from one side of the chamber (inlet port 3) to the sputter chamber 4. Thus, a modification of the chamber size in Ikeda to comport with independent claim 1 would render Ikeda completely unusable for its intended purpose. Such a modification cannot support the prior art rejection.

In addition, Applicant submits that there are no teachings in Ikeda that would accommodate a transport system in a vacuum chamber having the dimensions claimed without a significant redesign of the prior art. However, the prior art does not provide any such suggestion. In view of the holding in *In re Ratti*, 123 U.S.P.Q. 349, 352 (CCPA 1959), Applicant submits that the redesign requirement would indicate that the present rejection should be withdrawn.

Therefore, claim 1 is patentable for at least the above reason and the remaining claims are patentable based on their dependency. The additional prior art references of Chenevas-Paule and Zhang do not make up for the deficiencies of the primary combination of Yamazaki and Ikeda.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

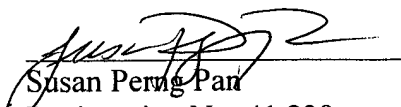
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